senting the physical and mental components are usually used to assess quality of life in knee and hip osteoarthritis
Objective: To assess the relevance of the physical and mental component aggregate scores of the SF-36 in knee and hip osteoarthritis.
Methods: We conducted a cross sectional national survey in primary care setting. 1474 GPs enrolled 4183 patients with hip or knee osteoarthritis. Quality of life was assessed by the SF-36 (0-100), disability by the Lequesne index (0-24), the WOMAC (0-100), and patients' opinion on a 6 level scale (no disability-extremely severe disability), and pain level on a 11 point numeric scale (0-10). Construct validity was assessed by convergent and divergent validity (Spearman's rank correlation coefficient) and factor analysis.
Results: Records of 4133 patients (98,8%) were analyzed (2540 knee osteoarthritis, 1593 hip osteoarthritis). SF-36 mean scores were 31.9 ± 8.4 and 47.0 ± 11.0 for the physical (PCS) and mental (MCS) components, respectively, of the SF-36. Correlation coefficients of these scores with those of the Lequesne (r=0.64, 0.30), WOMAC (r=0.65, 0.39), patients' opinion on disability (r=0.59, 0.38), and pain (r=0.58, 0.37) suggest acceptable convergent and divergent validity, and correlation between the PCS and MCS mean scores was low as expected (r=0.14). Factor analysis performed on the 8 subscales of the SF-36 extracted 2 factors with eigenvalues of 4.77 and 0.85 explaining 70% of the variance. These factors differed from the *a priori* stratification. The first factor represented mental health, vitality, and general health perception, and the second factor physical functioning, physical role, and bodily pain. Emotional role and social functioning could not be attributed to one of these factors.
Conclusions: Our results suggest that, in hip and knee osteoarthritis, the use of 2 aggregate scores, representing mental components restricted to mental health, general health perception, and vitality and physical components restricted to physical functioning, physical role, and bodily pain, might be an alternative to the use of the physical and mental component aggregate scores of the SF-36, as they are currently defined.

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PREDICTORS OF FUNCTIONAL LIMITATION IN VETERANS WITH OSTEOARTHRITIS RECEIVING CARE AT VA MEDICAL CENTERS

JA Singh[1,2,3], KL Nichol[1,2]
[1]Medicine, Minneapolis VA Medical Center, Minneapolis, MN; [2]Medicine, University of Minnesota, Minneapolis, MN; [3]Center for Epidemiological and Clinial Research, Minneapolis VA Medical Center, Minneapolis, MN

Objective: To study the prevalence and determinants of functional limitation in a cohort of veterans with diagnosis of osteoarthritis seeking health care at Veterans Affairs (VA) medical facilities.
Methods: We mailed a self-administered survey to all veterans receiving health care at Upper Midwest Veterans Integrated Service Network with an inpatient or outpatient encounter between 10/1/97 and 3/31/98. The survey included questions related to functional limitation as measured by limitation of six Activities of Daily Living (ADLs; bathing, dressing, eating, transfer from chair, walking, and toileting), demographics, current smoking status, and self-report of physician diagnosed comorbidities. This data was supplemented by demographic and in- and out-patient health care utilization data including percent service connection (veterans get service connection ranging from 0-100% for disability resulting from or beginning during active military service), from the clinical and administrative databases. A cohort of patients with diagnosis of osteoarthritis was identified from databases.
We calculated the proportion of subjects with osteoarthritis with limitation of each ADL. We used multivariable logistic regression analyses to obtain estimates of odds of limitation of each ADL (adjusted for demographic, smoking status, comorbidity and utilization variables) with sociodemographic, comorbidity and health care utilization as the predictors and ADL limitation as the outcome.
Results: Of the 70,334 eligible veterans, 7,342 (10%) had a diagnosis of osteoarthritis. The mean age (±standard deviation) was 67±13 years, 96% were men, 95% were Caucasian. 40,508/70,334 (58%) veterans responded to the survey and data on ADL limitation was available for 4,474-4,642 subjects.
20% had limitation in bathing, 31% in dressing, 13% in eating, 56% in transfer from chair, 70% in walking and 19% in using the toilet.
In the multivariable regression analyses, we found the following significant associations: percent service connection with difficulty in all ADLs except eating; number of outpatient visits with all ADLs except using the toilet; hypertension with difficulty in all ADLs except eating; asthma/COPD with difficulty in bathing, dressing and walking; diabetes with difficulty in bathing, chair transfer and walking; heart disease with difficulty in walking; lower educational level with difficulty in bathing, dressing and walking; retired or unemployed status with difficulty in chair transfer and walking; unmarried status with difficulty in using the toilet; age with difficulty in bathing, dressing, chair transfer and walking; male gender with difficulty in chair transfer and walking; and multi-site use with difficulty in dressing;. Race, current smoking status and hospitalization were not associated with limitation of any ADL.
Conclusions: Various socio-demographic, comorbidity and utilization characteristics are associated with functional limitation in veterans with osteoarthritis.

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APPROPRIATENESS CRITERIA FOR TOTAL HIP REPLACEMENT

KE Dreinhoefer[1], P Dieppe[2], KP Guenther[3], W Puhl[1], M Floeren[1]
[1]Department of Orthopaedic Surgery, Ulm University, Ulm, Germany; [2]Health Services Research Collaboration, Dept. of Social Medicine, University of Bristol, Bristol, United Kingdom; [3]Department of Orthopaedics, University of Dresden, Dresden, Germany

The rapid development of costly medical technologies and services and the need for rationing health-care resources reduces the ability to provide all patients with the best treatment possible, and makse it necessary to identify over- and under-use to maintain or increase quality of care. The goal of this European study was to develop explicit criteria to examine the appropriateness of indications for THR.
The study protocol was created using the RAND appropriateness method. A multidisciplinary group of 28 experts from 12 countries identified four indication factors and six co-factors for THR based on empirical data collection and systemic literature review. A catalogue with case scenarios was created to picture all clinical constellations of primary osteoarthritis. In a two step evaluation all case scenarios were judged for the level of appropriateness (scale 1-9) by the expert panel. In 65% of the cases an unequivocal judgement was found: 31 cases were appropriate and 4 were inappropriate. 35% of indications were judged "relative". In the majority of appropriate cases pain at rest or night was present. In addition, basic cases without pain at rest or night but with some higher degree of functional impairment and joint space narrowing were also judged appropriate. Consensus was achieved in all cases except for one. In this study we developed appropriateness criteria for THR using an innovative-modified RAND process. Applied as a screening tool, these criteria might identify a significant

percentage of potentially inappropriate procedures, and the patients might not benefit from THR as expected. Preventing the overuse of THR would have a major impact on medical practice and costs. On the other site, appropriateness criteria might aid in identifying underuse of THR in a population by applying these criteria to people not scheduled for surgery so far

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ARTERIAL STIFFNESS AND HAND OSTEOARTHRITIS: A NOVEL RELATIONSHIP?

AS Saleh[1], SS Najjar[2], V Gill[2], DC Muller[2], A Gelber[1], L Ferrucci[2], SM Ling[2]
[1]Rheumatology, The Johns Hopkins University School of Medicine, Baltimore, MD; [2]National Institute on Aging Intramural Research Program (NIA-IRP), Baltimore, MD

Study Aims: Osteoarthritis (OA) and vascular stiffening both occur with aging. We addressed the hypothesis that in aging adults, hand OA is independently related to elevated pulse pressure (PP), a marker of vascular stiffness.
Methods: 786 participants of a normative aging study who had undergone hand radiography and blood pressure measurements, and who were free of cardiovascular disease and vasocative medications (which are known to influence PP), were identified. Pulse pressure (PP) was calculated as the difference between systolic and diastolic blood pressures. Radiographic hand OA was defined as a Kellgren-Lawrence (KL) grade $\geq$2 in one or more joints in two or more of the signal joints (DIP, PIP, CMC). Additional features of OA also assessed include the total number of OA joints, the cumulative KL grade for all hand joints, the presence of moderate to severe osteophytes (OST) in one or more joints, and the presence of moderate to severe joint space narrowing (JSN) in one or more joints. The relationships between PP, radiographic hand OA, and the additional features of OA were individually analyzed by univariate and age-adjusted linear regressions.
Results: The mean age of subjects was 54.7 $\pm$ 18 years, and 415 (52.8%) were male. 241 subjects (30.7%) had radiographic hand OA. The average pulse pressure was 42.9 $\pm$ 0.5 mmHg for those without hand OA and 53.7 $\pm$ 1.0 mmHg for those with hand OA ($p<0.0001$). As shown in the table, univariate analysis revealed that radiographic hand OA was significantly associated with increased pulse pressure. Further features of hand OA, including cumulative KL grade, the total number of OA joints, the presence of OST, and the presence of JSN, were each positively associated with elevated pulse pressure. After adjustment for age, trends towards positive association between PP and cumulative KL grade and OST persisted, but not with JSN.
Conclusion: Significant associations between PP and various measures of hand OA exist; however, these associations appear to be largely explained by age. The residual trends however, may possibly be attributable to mechanisms common to development of both osteoarthritis vascular stiffening.
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THE PREVALENCE OF PATELLOFEMORAL AND TIBIOFEMORAL OSTEOARTHRITIS IN WOMEN IN THE HERTFORDSHIRE STUDY COHORT

KM Jordan, HE Syddall, A Aihie Sayer, EM Dennison, C Cooper, NK Arden
MRC Environmental Epidemiology Unit, Southampton General Hospital, Southampton, Hampshire, United Kingdom

Aim: To investigate the prevalence of radiographic, clinical and symptomatic knee osteoarthritis (KOA) in women in the Hertfordshire Study Cohort
Methods: We utilised directly recorded information in women aged 61-71 years, born and still resident in Hertfordshire, UK. We collected demographic details, and performed weight-bearing antero-posterior and lateral semi-flexed radiographs of both knees in 459 women and a questionnaire detailing knee pain in 400 women. Radiographs were assessed for OA at the tibiofemoral and patellofemoral joints for joint space narrowing and osteophytes using a standard atlas and overall Kellgren and Lawrence score (K/L) determined; a grade of 2 was defined as definite osteoarthritis. Clinical knee OA was defined as pain in one or both knees on most days in the last month, and symptomatic knee OA (SOA) as clinical knee OA plus K/L radiographic grade 2.
Results: Mean age in the cohort was 66.4 years, BMI 26.8, height 160.9cm and 59.6% of the women were from a manual social class.
The prevalence of K/L grade in the complete knee radiograph cohort (using the worst knee as the index knee) was: grade 0, (29.9%); grade 1, (30.7%); grade 2, (35.4%); grade 3, (3.2%); grade 4, (0.8%).Tibiofemoral radiographic K/L score of 2+ was found in 39.4% of women studied, tibiofemoral osteophyte score 2+ in 20.3% and tibiofemoral joint space narrowing score of 2+ in 17.7%. Patellofemoral K/L score of 2 was found in 36.3%. All subjects with definite patellofemoral KOA also had tibiofemoral KOA.
Knee pain was present in 43.3% (21.3% had pain in both knees, 12% in the left knee alone and 10% in the right knee alone).
Symptomatic knee OA was found in 10% of the cohort (6.8% were bilateral and 3.2% unilateral).
Conclusion: Both radiographic and clinical knee osteoarthritis was a common finding in this cohort of subjects

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AGING AND FUNCTIONAL LIMITATION IN VETERANS

JA Singh[1,2], KL Nichol[1,2]
[1]Medicine & Center for Epidemiological and Clinical Research, Minnepoalis VA Medical Center, Minnepaolis, MN; [2]Medicine, University of Minnesota, Minneapolis, MN

Objective: To assess the association of aging and functional limitation in a veteran cohort.
Methods: We mailed a self-administered survey to all veterans receiving health care at Veterans Network-13 with an inpatient or outpatient encounter between 10/1/97 and 3/31/98. The

Abstract P356 – Table 1. Unadjusted and Age-adjusted analyses of Pulse Wave Velocity and hand Osteoarthritis

	Unadjusted analysis			Age-adjusted analysis		
	b-coeff	95% CI	p-value	b-coeff	95% CI	p-value
Radiographic hand OA	10.8	8.7, 12.9	<0.0001	1.6	-0.7, 4	0.184
Total Number of OA joints	1.2	1, 1.4	<0.0001	0.2	-0.1, 0.5	0.146
Cumulative KL grade	0.4	0.3, 0.5	<0.0001	0.08	0, 0.2	0.094
Presence of OST	11.1	8.7, 13.5	<0.0001	2.3	-0.2, 4.8	0.071
Presence of JSN	10.6	8.6, 12.6	<0.0001	1.6	-0.7, 4	0.166